

=> fil reg

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STRUCTURE FILE UPDATES: 12 OCT 2005 HIGHEST RN 865114-63-2

DICTIONARY FILE UPDATES: 12 OCT 2005 HIGHEST RN 865114-63-2

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=> fil hcap

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FILE COVERS 1907 - 14 Oct 2005 VOL 143 ISS 17

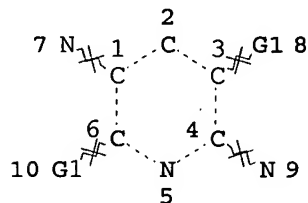
FILE LAST UPDATED: 13 Oct 2005 (20051013/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d que

L2 STR



VAR G1=O/S/N

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

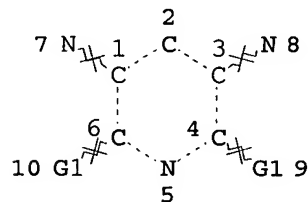
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RSPEC I

NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE

L3 STR



VAR G1=O/S/N

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

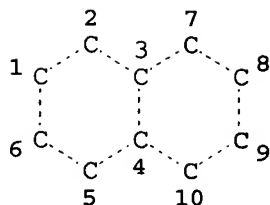
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RSPEC I

NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE

L6 STR



NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RSPEC I  
 NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE  
 L8 SCR 2043  
 L10 2 SEA FILE=REGISTRY SSS FUL L6 AND (L2 OR L3) AND L8  
 L11 3 SEA FILE=HCAPLUS L10

=> d l11 bib abs ind hitstr 1-3

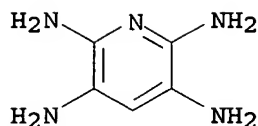
L11 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1973:454044 HCAPLUS  
 DN 79:54044  
 TI Acid addition salts of 2,3,5,6-tetraaminopyridine  
 IN Gerber, Arthur H.  
 PA Horizons, Inc.  
 SO U.S., 5 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3740410	A	19730619	US 1970-92154	19701123
	US 3804804	A	19740416	US 1971-151601	19710609
	US 3838154	A	19740924	US 1973-324282	19730117

PRAI US 1970-92154 A 19701123  
 AB 2,6-Diamino-3,5-dinitropyridine (I) [34981-11-8] was prepared from 2,6-diaminopyridine (II), and was catalytically reduced to the 2,3,5,6-tetraaminopyridine (III) free base (and its acid salts), which were polym. to form thermally stable polymers. Thus, a mixt. of 250 cm<sup>3</sup> H<sub>2</sub>SO<sub>4</sub> and 54.5 g II at <25.deg. was blended with 30 cm<sup>3</sup> H<sub>2</sub>SO<sub>4</sub> and 76 g HNO<sub>3</sub> during 2 hrs at 10 +-5.deg.. The soln. was

heated to 70.deg. during 45 min and heated at 75.deg. for 30 min to obtain 63 g I, which was dissolved (15 g) in 100 cm<sup>3</sup> hot H<sub>3</sub>PO<sub>4</sub>-MeOH soln. The soln was cooled to 25.deg., diluted with 135 cm<sup>3</sup> HCO<sub>2</sub>H (saturated with HCl) and 15 cm<sup>3</sup> HCl, and mixed with 5% Pd/charcoal (2.88 g). The mixt was heated at 75.deg. and 55 psi H, filtered, and the filtrate added to a THF-HCl soln to ppt. the III HCl salt. A soln. contg. 333 g 116% deoxygenated polyphosphoric acid and 3.32 g III.HCl was heated at 75-80.deg. in N, blended with 4.05 g 1,4,5,8-naphthalenetetracarboxylic acid [128-97-2], and the mixt. heated 10 hr at 180.deg. to yield 3.4 g heterocyclic polymer, which required > 2 hr heating at 1000-1100.deg. in an open crucible for complete combustion.

IC C07D  
INCL 260295000S  
CC 35-2 (Synthetic High Polymers)  
ST pyridine tetraamino naphthalenecarboxylic polymn; aminonitropyridine  
prepn aminopyridine  
IT Heterocyclic compounds  
RL: USES (Uses)  
(polymers, from tetraaminopyridines and aromatic carboxylic  
compds.)  
IT Heat-resistant materials  
(tetraaminopyridine-aromatic polycarboxylic acid polymers)  
IT 37367-58-1P 41488-65-7P 91-19-0D, Quinoxaline, derivs.,  
polymers  
RL: PREP (Preparation)  
(manuf. of thermally-stable)  
IT 141-86-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(nitration or chloroformylation of)  
IT 4936-27-0P 34981-10-7P 34981-11-8P 37367-31-0P 37367-45-6P  
37406-32-9P 37406-34-1P 38926-45-3P 39132-54-2P 39132-55-3P  
39365-94-1P  
RL: PREP (Preparation)  
(prepn. of)  
IT 541-41-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with diaminopyridine)  
IT 37367-58-1P  
RL: PREP (Preparation)  
(manuf. of thermally-stable)  
RN 37367-58-1 HCAPLUS  
CN 1,4,5,8-Naphthalenetetracarboxylic acid, polymer with  
2,3,5,6-pyridinetetramine trihydrochloride (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 34981-10-7  
CMF C5 H9 N5 . 3 Cl H

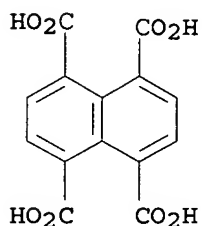


● 3 HCl

CM 2

CRN 128-97-2

CMF C14 H8 O8



L11 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1973:125353 HCAPLUS  
 DN 78:125353  
 TI Heterocyclic polymers  
 IN Gerber, Arthur H.; Koch, Stanley D.; Adams, John S., Jr.  
 PA Horizons Research Inc.  
 SO Ger. Offen., 31 pp.  
 CODEN: GWXXBX  
 DT Patent  
 LA German  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2166070		19721207		
	CA 973554			CA	
	GB 1361840			GB	
PRAI	US 1970-97419		19701230		
AB	2,3,5,6-Tetraaminopyridine (I) [38926-45-3] optionally contg. another tetraamino compd. was reacted with a polycarboxylic acid, a benzoquinone, or an arom. diglyoxalyl compd. to form thermally stable heterocyclic polymers useful as fibers and films. Thus, 3.32 g I.3HCl was treated with 333 g 116% polyphosphoric acid at .sim.75.deg., and the mixt. was blended with 4.05 g 1,4,5,8-naphthalenetetracarboxylic acid. The soln. was heated 10 hr at 180.deg. to yield 2,3,5,6-tetraaminopyridine-1,4,5,8-				

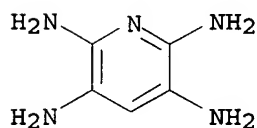
naphthalenetetracarboxylic acid copolymer [38905-07-6], polymer, which required >2 hr at 1000-1100.deg. to completely combust. I was prepd. by nitrating 2,6-diaminopyridine and then reducing the dinitro product.

IC C08G  
 CC 36-3 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 27  
 ST heterocyclic polymer aminopyridine; naphthalenecarboxylic acid heterocyclic polymer  
 IT Ring closure and formation  
 (in polymn. of aminopyridine with naphthalenetetracarboxylic acid)  
 IT Polymerization  
 (ring closure in, of aminopyridine with naphthalenetetracarboxylic acid)  
 IT 37367-31-0P 37367-45-6P 38905-07-6P 41488-65-7P  
 41488-81-7P  
 RL: PREP (Preparation)  
 (manuf. of, cyclization in)  
 IT 141-86-6  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (nitration of)  
 IT 4936-27-0P 34981-11-8P 37406-32-9P 37406-34-1P 38926-45-3P  
 39132-52-0P 39365-94-1P 41344-47-2P 41638-07-7P  
 RL: PREP (Preparation)  
 (prepn. of)  
 IT 124-63-0 541-41-3  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with diaminopyridine)  
 IT 38905-07-6P  
 RL: PREP (Preparation)  
 (manuf. of, cyclization in)  
 RN 38905-07-6 HCAPLUS  
 CN 1,4,5,8-Naphthalenetetracarboxylic acid, polymer with  
 2,3,5,6-pyridinetetramine (9CI) (CA INDEX NAME)

CM 1

CRN 38926-45-3

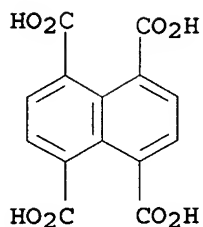
CMF C5 H9 N5



CM 2

CRN 128-97-2

CMF C14 H8 O8



L11 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1973:98276 HCAPLUS

DN 78:98276

TI Heterocyclic polymers

IN Gerber, Arthur H.; Koch, Stanley D.

PA Horizons Research, Inc.

SO Ger. Offen., 68 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2228067		19721228		
	US 3804804		19740000	US	
	US 3838154		19740000	US	
PRAI	US 1971-151601		19710609		
AB	Sol. polymers are prepd. from pyridine or bipyridine tetramines and arom. polycarboxylic acids, which are converted by heat to chem.- and heat-resistant products. Thus, heating 4.96 g 2,3,5,6-tetraaminopyridine trihydrochloride [34981-10-7] and 3.32 g isophthalic acid in 240 g 116% polyphosphoric acid 20 hr at 180.deg. gives 4.4 g isophthalic acid-2,3,5,6-tetraaminopyridine copolymer [39151-97-8]. The polymer is pptd. from H3PO4-HOAc by H2O and heated 4.5 hr at 220-5.deg. to give 3.1 g product showing wt. loss 3% at 500.deg..				
IC	C08G				
CC	35-3 (Synthetic High Polymers)				
	Section cross-reference(s): 27				
ST	pyridine amino copolymer; tetraaminopyridine copolymer; isophthalic acid copolymer; benzimidazole deriv polymer; heat resistance polymer				
IT	Heat-resistant materials (heterocyclic polymers, contg. tetraaminopyridine)				
IT	Adhesives (hot-melt, acrylic polymer-epoxy compd. reaction products as thermally stable)				
IT	Epoxides Epoxy resins RL: USES (Uses) (reaction products with acrylic polymers, for hot-melt adhesives)				
IT	2-Propenamide, polymer with 2-ethylhexyl 2-propenoate, methyl 2-methyl-2-propenoate and 2-propenenitrile, reaction products with epoxy resins 2-Propenenitrile, polymer with 2-ethylhexyl 2-propenoate, methyl				

2-methyl-2-propenoate and 2-propenamide, reaction products with epoxy resins

2-Propenenitrile, polymer with 2-ethylhexyl 2-propenoate, methyl 2-methyl-2-propenoate and oxiranylmethyl 2-methyl-2-propenoate, reaction products with epoxy resins

2-Propenoic acid, 2-ethylhexyl ester, polymer with methyl 2-methyl-2-propenoate, 2-propenamide and 2-propenenitrile, reaction products with epoxy resins

2-Propenoic acid, 2-ethylhexyl ester, polymer with methyl 2-methyl-2-propenoate, oxiranylmethyl 2-methyl-2-propenoate and 2-propenenitrile, reaction products with epoxy resins

2-Propenoic acid, 2-methyl-, 2-methylpropyl ester, polymer with ethenylbenzene and oxiranylmethyl 2-methyl-2-propenoate, reaction products with epoxy resins

2-Propenoic acid, 2-methyl-, methyl ester, polymer with 2-ethylhexyl 2-propenoate, 2-propenamide and 2-propenenitrile, reaction products with epoxy resins

2-Propenoic acid, 2-methyl-, methyl ester, polymer with 2-ethylhexyl 2-propenoate, oxiranylmethyl 2-methyl-2-propenoate and 2-propenenitrile, reaction products with epoxy resins

2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with 2-ethylhexyl 2-propenoate, methyl 2-methyl-2-propenoate and 2-propenenitrile, reaction products with epoxy resins

2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with ethenylbenzene and 2-methylpropyl 2-methyl-2-propenoate, reaction products with epoxy resins

Benzene, ethenyl-, polymer with 2-methylpropyl 2-methyl-2-propenoate and oxiranylmethyl 2-methyl-2-propenoate, reaction products with epoxy resins

Oxirane, (chloromethyl)-, polymer with 4,4'-(1-methylethylidene)bis[phenol], reaction products with acrylic polymers

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane, reaction products with acrylic polymers

RL: USES (Uses)  
(adhesives, thermally stable hot-melt)

IT 51-17-2DP, 1H-Benzimidazole, derivs., polymers 91-19-0DP, Quinoxaline, derivs., polymers 37367-29-6P 37367-30-9P 37367-31-0P 37367-45-6P 37367-46-7P 37367-51-4P 37367-57-0P 37367-58-1P 37367-60-5P 37367-62-7P 39955-70-9P

RL: IMF (Industrial manufacture); PREP (Preparation)  
(heat-resistant, manuf. of)

IT 141-86-6

RL: RCT (Reactant); RACT (Reactant or reagent)  
(nitration of)

IT 4936-27-0P 34981-10-7P 34981-11-8P 37406-32-9P 37406-34-1P 38926-45-3P 39132-55-3P 39893-01-1P 39893-02-2P 39893-04-4P 39893-05-5P 40212-44-0P 40865-40-5P

RL: PREP (Preparation)  
(prepn. of)

IT 37367-58-1P

RL: IMF (Industrial manufacture); PREP (Preparation)  
(heat-resistant, manuf. of)

RN 37367-58-1 HCAPLUS

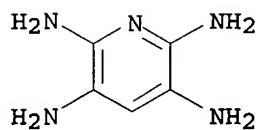
CN 1,4,5,8-Naphthalenetetracarboxylic acid, polymer with 2,3,5,6-pyridinetetramine trihydrochloride (9CI) (CA INDEX NAME)



CM 1

CRN 34981-10-7

CMF C5 H9 N5 . 3 Cl H

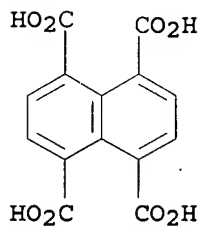


●3 HCl

CM 2

CRN 128-97-2

CMF C14 H8 O8



=>